

14 FEB 2005

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

**(19) World Intellectual Property
Organization
International Bureau**



(43) International Publication Date
26 February 2004 (26.02.2004)

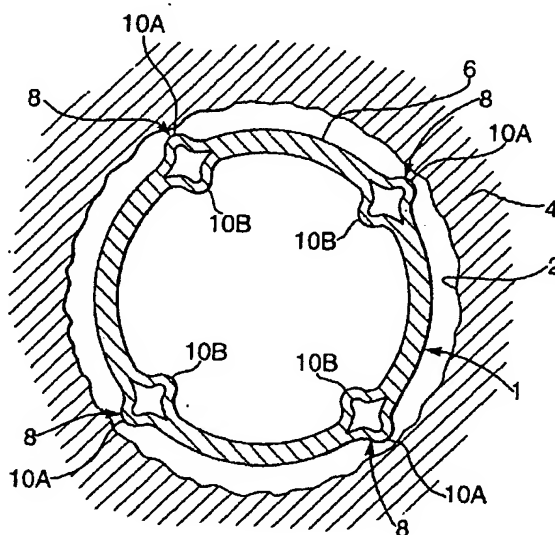
PCT

(10) International Publication Number
WO 2004/016905 A1

- | | |
|--|---|
| <p>(51) International Patent Classification⁷:
C09J 5/04</p> <p>(21) International Application Number:
PCT/EP2003/008843</p> <p>(22) International Filing Date: 8 August 2003 (08.08.2003)</p> <p>(25) Filing Language: English</p> <p>(26) Publication Language: English</p> <p>(30) Priority Data:
02255562.7 8 August 2002 (08.08.2002) EP</p> <p>(71) Applicant (for all designated States except CA, US): SHELL INTERNATIONALE RESEARCH MAATSCHAPPIJ B.V. [NL/NL]; Carel van Bylandtlaan 30, NL-2596 HR The Hague (NL).</p> <p>(71) Applicant (for CA only): SHELL CANADA LIMITED [CA/CA]; 400, 4th Avenue S.W., Calgary, Alberta T2P 2H5 (CA).</p> | <p>(72) Inventor; and
(75) Inventor/Applicant (for US only): LOHBECK, Wilhelmus, Christianus, Maria [NL/NL]; Volmerlaan 8, NL-2288 GD Rijswijk (NL).</p> <p>(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.</p> <p>(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).</p> <p>Published:
— with international search report</p> |
|--|---|

[Continued on next page]

(54) Title: EXPANDABLE TUBULAR ELEMENT FOR USE IN A WELLBORE



(57) **Abstract:** An expandable tubular element having a wall including at least a portion formed of a plurality of stacked wall layers, each wall layer having a bent configuration in a cross-sectional plane prior to radial expansion of the tubular element and being arranged to deform from the bent configuration to a more stretched configuration upon radial expansion of the tubular element.

WO 2004/016905 A1



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 03/08843

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 E21B43/10 C09J5/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 E21B C09J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, TULSA

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01 20125 A (METCALFE PAUL DAVID ;WEATHERFORD LAMB (US)) 22 March 2001 (2001-03-22) page 3, line 13 -page 4, line 4; figures 6,7 page 5, line 2-11 ---	1-6,8, 10,14,15
X	EP 1 152 120 A (HALLIBURTON ENERGY SERV INC) 7 November 2001 (2001-11-07) paragraphs '0082!-'0089!; figures 9,10,13,14 ---	1-5,8, 10,14,15
X	WO 99 56000 A (SHELL CANADA LTD ;LOHBECK WILHELMUS CHRISTIANUS (NL); SHELL INT RE) 4 November 1999 (1999-11-04) page 12, line 34 -page 13, line 26; figure 12 --- -/-	1,2,8, 14,15

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

A document member of the same patent family

Date of the actual completion of the international search

2 January 2004

Date of mailing of the international search report

12/01/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

van Berlo, A

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 03/08843

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 979 560 A (NOBILEAU PHILIPPE) 9 November 1999 (1999-11-09) column 6, line 13-33; figure 20 ----	1,4
A	WO 01 26860 A (ENVENTURE GLOBAL TECHNOLOGY ;DEAN BILL (US); COWAN MIKE (US); FILL) 19 April 2001 (2001-04-19) the whole document ----	9
A	EP 1 125 965 A (INST FRANCAIS DU PETROL) 22 August 2001 (2001-08-22) paragraph '0033! ----	11-13
A	US 6 073 692 A (WOOD EDWARD T ET AL) 13 June 2000 (2000-06-13) column 7, line 3-11 ----	11-13
A	EP 0 701 041 A (HALLIBURTON CO) 13 March 1996 (1996-03-13) the whole document -----	11-13

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 03/08843

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0120125	A	22-03-2001	AU 7031200 A CA 2383179 A1 EP 1212513 A1 WO 0120125 A1 GB 2354271 A ,B US 6513588 B1	17-04-2001 22-03-2001 12-06-2002 22-03-2001 21-03-2001 04-02-2003
EP 1152120	A	07-11-2001	US 6457518 B1 AU 3878601 A BR 0101997 A CA 2346441 A1 EP 1152120 A2 SG 91921 A1 US 2002129935 A1	01-10-2002 08-11-2001 26-12-2001 05-11-2001 07-11-2001 15-10-2002 19-09-2002
WO 9956000	A	04-11-1999	EP 0952305 A1 AU 743241 B2 AU 4361099 A BR 9909815 A CA 2328420 A1 CN 1298468 T DE 69906278 D1 DE 69906278 T2 DK 1080296 T3 EA 2235 B1 WO 9956000 A1 EP 1080296 A1 JP 2002513108 T NO 20005308 A NZ 507198 A	27-10-1999 24-01-2002 16-11-1999 19-12-2000 04-11-1999 06-06-2001 30-04-2003 11-12-2003 14-07-2003 28-02-2002 04-11-1999 07-03-2001 08-05-2002 20-10-2000 29-04-2003
US 5979560	A	09-11-1999	AU 733469 B2 AU 8880598 A CA 2304687 A1 EP 1012441 A1 WO 9913195 A1 NO 20001148 A US 6253852 B1	17-05-2001 29-03-1999 18-03-1999 28-06-2000 18-03-1999 07-03-2000 03-07-2001
WO 0126860	A	19-04-2001	AU 7867300 A CA 2385596 A1 GB 2373524 A NO 20021613 A WO 0126860 A1	23-04-2001 19-04-2001 25-09-2002 29-05-2002 19-04-2001
EP 1125965	A	22-08-2001	FR 2804686 A1 CA 2334496 A1 EP 1125965 A1 NO 20010645 A US 2001020053 A1	10-08-2001 08-08-2001 22-08-2001 09-08-2001 06-09-2001
US 6073692	A	13-06-2000	AU 756057 B2 AU 1736799 A CA 2264336 A1 GB 2335683 A ,B NO 991480 A	02-01-2003 07-10-1999 27-09-1999 29-09-1999 28-09-1999
EP 0701041	A	13-03-1996	US 5507346 A	16-04-1996

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 03/08843

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0701041	A	US 5564503 A	15-10-1996
		CA 2156981 A1	27-02-1996
		EP 0701041 A2	13-03-1996
		NO 953303 A	27-02-1996
		CA 2156977 A1	27-02-1996
		CA 2156982 A1	27-02-1996
		CA 2156983 A1	27-02-1996
		CA 2156984 A1	27-02-1996
		CA 2156987 A1	27-02-1996
		EP 1233144 A2	21-08-2002
		EP 1233142 A2	21-08-2002
		EP 1249574 A2	16-10-2002
		EP 0701042 A2	13-03-1996
		EP 0701044 A2	13-03-1996
		EP 0701040 A2	13-03-1996
		EP 0701045 A2	13-03-1996
		EP 0701043 A2	13-03-1996
		NO 953304 A	27-02-1996
		NO 953323 A	27-02-1996
		NO 953324 A	27-02-1996
		NO 953325 A	27-02-1996
		NO 953326 A	27-02-1996
		NO 20001342 A	27-02-1996
		SG 32473 A1	13-08-1996
		SG 34260 A1	06-12-1996
		SG 32475 A1	13-08-1996
		SG 32476 A1	13-08-1996
		SG 34261 A1	06-12-1996
		SG 32477 A1	13-08-1996
		US 5499680 A	19-03-1996
		US 5501281 A	26-03-1996
		US 5499681 A	19-03-1996
		US 5566763 A	22-10-1996
		US 5613559 A	25-03-1997
		US 5735350 A	07-04-1998